

CATGGTAGACGGCTGCCCGAGGGACCACGCGTCTGAGACCGGCGATCGGACCGCCAAAACCATGGGTAGCAATCGGGGCCGCAAG  
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 GTTCCTGCCTGCGAACAATGCCAAGAAAGTGGAGAAGCGAGGCCCGGCGCTGGGTGGTGGTGGTGGCAGTGCTGTTTCAAGCTTCC  
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 GCTGAAGCTGCTGTACAATGAAGTCCCTGTCTGGGTCCCTACCACAAGAAGTCGGCTGTAAGTGCCTTCAGTGAGGGCAGTGTC  
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 TTGCCACCCCGAGCACGGGCACTGAAATCCTTCGTGCTAACATCTGTGGTGGCTTCCCCATTGACCCCAAGAATGCTGCAGAGGAC  
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 ACCCGGCGCATGCCCGCTGCCAGTGGGTCTTGGGGGGGACGCCGACTCTGTGCTGAGCCTCACCTTCCGAAGCTTTGATGTCGCT  
 CCCTGTGATGAGCATGGCAGTGACCTGGTCACCGTGTATGATAGCTGAGCCCCATGGAACCCACGCTGTGGTGGCGGTGTGTGG  
 CACCTTCTCACCTCTACAACCTGACTTTCCTCTCCTCCAGAACGCTTCTCTGTACGCTGATAACCAATACTGACCGGCGAC  
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 GCGGTGAGAGGTCCCAGTTTGTGGTGGCAGCAACAGCAGCAAGATTACAGTCCACTTCCATTCTGATCACTCGTACACGGACACC  
 GGGTTCCCTAGCTGAGTACCTCTCCTACGACTCCAACGACCCGCTGCGCCAGGGATGTTTATGTGCAAGACTGGACGGTGCATCCGAAA  
 GGAAGTGGCTGCGACGGCTGGGCACTGCCCGGATTATAGTGTGAGCGTTACTGCCGATGCAATGCCACCCACAGTTTACGT  
 GCAAAAACCAAGTTCTGCAAGCCCCCTCTTCTGGGTCTGTGACAGTGTCAACGACTGTGGGGACGGAAGTGACGAGGAGGGCTGCAGC  
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 AGGGCAACCTGAGTGTGATGGGAAGACGGACTGTAGCGATGGCTCCGATGAGAAAACTGTGACTGTGGGCTGCGATCCTTTACC  
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 GGATGCCCCGACATGCACACCTGGATACAGGAGAGGAACACTGACGACATTTATGCTGTGGCCTCCCCCCCCAACACAACCCAGAC  
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 CTGTATTGAGCTCCCGGGAGCCCTATGGGAGGAGGGGCTCAGGGTCACTCTTTTTCAGGAAGCGCCAGCCCTAGGAACCCAGAAA  
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 AAAAAAAA (SEQ ID NO:1)

MGSNRGRKAGGGSQDFGAGLKYNSRLENMNGFEEGVFLPANNA  
 KKVEKRGPRRWVVLVAVLFSFLLLSLMAGLLVWHFHYRNVVRVQKVFNGHLRITNEIFL  
 DAYENSTSEFISLASQVKEALKLLYNEVPVLGPYHKKSATVAFSEGSVIAIYYWSEFS  
 IPPHLAEVDRAMAVERVVTLPPRARALKSFVLTSSVAFPIDPRMLQRTQDNCSFAL  
 HAHAHVTRFTTTPGFNSPYPAHARCQWVLRGDADSVLSLTFRSFDVAPCDEHGSOLV  
 TVYDSLSPMEPHAVRLCGTFSPSYNLTFLLSQNVFLVTLITNTDRRHGPFATFFQL  
 PKMSSCGFLSDTQGTFSPPYPGHYPNINCTWNIKVPNNRNVKVRFLFYLVDPNV  
 PVGSC TKDYVEINGEKYCGERSQFVSSNSSKITVHFHSDHSYTDTGFLAEVLSYDSN  
 DPCPGMFMCKTGRCIRKELRCDGWADCPDYSDERYCRCNATHQFTCKNQFCKPLFWVC  
 DSVNDCGDGSDEEGSCFAGSFKCSNGKCLPQSQKCNKDNCGDGSDEASCDVNVVS  
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 EWPWQVSLHALGQHLGASLISPDWLVSAAHCFQDDKNFKYSDYTMWTAFLGLLDQS  
 KRSASGVQELKLKRIITHPSFNDFTFDYDIALLELEKSVEYSTVVRPICLPDATHVFP  
 AGKAIWVTGWGHTKEGGTGALILQKGEIRVINQTTCEDLMPQITPRMMC VGFLSGGV  
 DSCQGDSSGGLSSAEKDGRMFQAGVVSWECECAQRNKPVGVTPLPVVRDWIKEHTGV  
 (SEQ ID NO:2)

FIGURE 1

underlined = deleted in targeting construct

[ ] = sequence flanking Neo insert in targeting construct

CATGGTAGACGGCTGCCCCGAGGGACCACGCGTCTGAGACCGGCGATCGGACCGCCAAAA  
CCATGGGTAGCAATCGGGGCCGCAAGGCCGGAGGGGGCTCTCAGGACTTCGGCGCGGGAC  
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CTGCGAACAATGCCAAGAAAGTGGAGAAGCGAGGCCCCAGGCGCTGGGTGGTGTGGTGG  
CAGTGCTGTTTCTCAGCTTCCTCTTGCTCTCCCTCATGGCTGGCTTGCTGGTGTGGCACTTCC  
ATTATCGGAATGTGCGGGTTCAAAAAGTCTTCAATGGCCATCTGAGGATCACAAATGAGA  
TCTTTCTGGATGCGTATGAGAACTCCACCTCCACAGAGTTTATCAGCCTGGCCAGCCAGG  
TGAAGGAGGCGCTGAAGCTGCTGTACAATGAAGTCCCTGTCTGGGTCCCTACCACAAGA  
AGTCGGCTGTAACTGCCTTCAGTGAGGGCAGTGTATCGCCTACTACTGGTCAGAGTTCA  
GCATCCCCCACACCTGGCAGAAGAGGTTGATCGCGCCATGGCTGTGGAGCGAGTTGTAA  
CATTGCCACCCCGAGCACGGGCACTGAAATCCTTCGTGCTAACATCTGTGGTGGCCTTCC  
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CCCATTGGTGCAGCAGTGACACGCTTCACTACCCCTGGCTTCCCCAACAGTCCCTACCCGG  
CGCATGGCCGCTGCCAGTGGGTCTGCGGGGGGACGCCGACTCTGTGCTGAGCCTCACCT  
TCCGAAGCTTTGATGTGCTCCCTGTGATGAGCATGGCAGTGACCTGGTCACCGTGTATG  
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CTGACCGGCGACATCCTGGCTTTGAGGCCACTTCTTCCAGCTGCCCAAGATGAGCAGCT  
GTGGCGGCTTTTTGAGTGACACCCAAGGGACATTTAGCAGCCCCCTACTATCCAGGCCACT  
ACCCGCCCAACATCAACTGCACATGGAATATCAAGGTGCCCAACAACCGGAACGTGAAGG  
TGCCTTCAAACTCTTCTATCTGGTGGACCCCAACGTACCAGTGGGCTCCTGCACCAAGG  
ACTATGTGGAGATCAACGGGGAGAAGTACTGCGGTGAGAGGTCCCAGTTTGTGGTGTGCA  
GCAACAGCAGCAAGATTACAGTCCACTTCCATTCTGATCACTCGTACACGGACACCGGGT  
TCCTAGCTGAGTACCTCTCCTACGACTCCAACGACCCGTGCCAGGGATGTTTATGTGCA  
AGACTGGACGGTGCATCCGAAAGGAAGTGCCTGCGACGGCTGGGCAGACTGCCCGGATT  
ATAGTGAGGTACAGCACCGTTCGATGCAATGCCACCCACAGTTTACGTGCAAAAACAGT  
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AGGAGGGCTGCAGCTGTCTGCTGGGAGTTTCAAGTGTTCATGGGAAGTGTCTCCCTC  
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TGAGCAAGGGCAACCCCTGAGTGTGATGGGAAGACGGACTGTAGCGATGGCTCCGATGAGA  
AAAACCTGTGACTGTGGGTGCGGATCCTTTACCAAAACAGGCTCGCGTGGTTGGTGGCAG  
ATGCGGACGAGGGCGAGTGGCCCTGGCAGGTGAGCCTCCACGCCCTGGGCCAGGGCCACT  
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ACCAGAGCAAGCGCAGTGCCTCTGGGGTGCAGGAGCTGAAGCTCAAACGTATCATCACC  
ACCTTCTTCAATGATTTCACTTCGACTATGACATCGCCTTGCTGGAGCTGGAGAAGT  
CGGTGGAGTACAGCACCGTTCGTGCGCCCCATCTGCCTGCCTGATGCTACCCATGTCTTCC  
CTGCTGGCAAGGCCATCTGGGTACAGGCTGGGGGCACACAAAAGAGGGAG [GTACCGGA  
GCGCTGATCCTGCAGAAGGGTGAAGTCCGTGTATCAACCAGACCACCTGTGAGGACCTC  
ATGCCGACAGCAGATCACCCACGAATGATGTGTGTGGGTTTCTCAGTGGGGGTGTGGAC  
TCCTGC] CAGGGTGACTCTGGTGGCCCCCTTGTCAAGCGCGGAGAAAG [ATGGGCGAATGT  
TCCAGGCTGGTGTGGTGAAGGCTGCGCTCAGAGGAACAAGCCAGGCGTGT  
ACACAAGGCTCCCTGTAGTTTCGGGACTGGATCAAAGAGCACACTGGGGTATAGCAGCATG  
GACAGACAGCCGACCACAAACACCCACAGGGATGCCCCGACATGCACACCTGGATACAGGA  
GAGGAACACTGACGACATTTATGCTGTGGCCTCCCCCCCCAACACAACCCAGACTGTGA  
ACTGCATCCTTAGGACTCAGAGTTCTTCCAAAGTGGGACCCCTCAAGAGTTGGAGAGAG  
AATTTGCGTGTAGCGGCCAGCCTGGGGGCAAGGGTTTGTATGGCAGCCTTCCCCCTCTA  
GCCCTGAGCTGGGTGAAGATGATGCTGTCCCGAGAGCTGCTTCCAACGTGTCATTGAGCT  
CCCGGAGGCCCTATGGGAGGAGGGGCTCAGGGTCACTCTTTTCAGGAAGCGCCAGCCCTA  
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GTATTTGAGAGTAAACATTTTATTTCTTTTAAAAA

FIGURE 2A

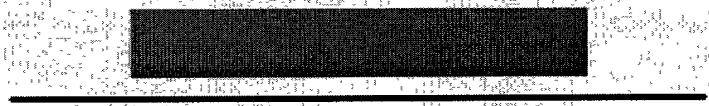
Gene Sequence Structure  
\*

2466 bp

Sequence Deleted

2505 bp

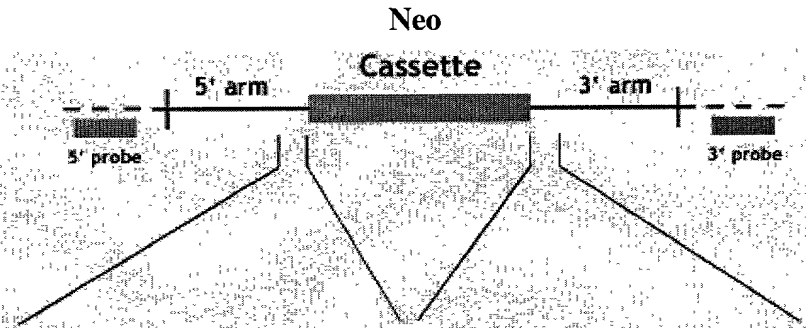
Size of full-length  
cDNA: 3106 bp



Targeting Vector\* (genomic sequence)

Construct Number: 2035

Arm Length:  
5': 3.8 kb  
3': 1 kb



<p>5' &gt;TTCCCCATTGAGACTGGCTTA CCCCGGAAGCTGCCTGCCTCAGTC TCCCGCTTCCTGTCTCCCCAGGTA CCGGAGCGCTGATCCTGCAGAAGG GTGAGATCCGTGTCATCAACCAGA CCACCTGTGAGGACCTCATGCCGC AGCAGATCACCCACGAATGATGT GTGTGGGTTTCCTCAGTGGGGGTG TGGACTCCTGC&lt;3' (SEQ ID NO:2)</p>	<p>5' &gt;ATGGGCGAATGTTCCAGGCTG GTGTGGTGGGCTGGGGTGAAGGCT GCGCTCAGAGGAACAAGCCAGGCG TGTACACAAGGCTCCCTGTAGTTC GGGACTGGATCAAAGAGCACACTG GGGTATAGCAGCATGGACAGACAG CCGACCACAAACACCCACAGGGAT GCCCCGACATGCACACCTGGATACA GGAGAGGGACA&lt;3' (SEQ ID NO:3)</p>
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FIGURE 2B